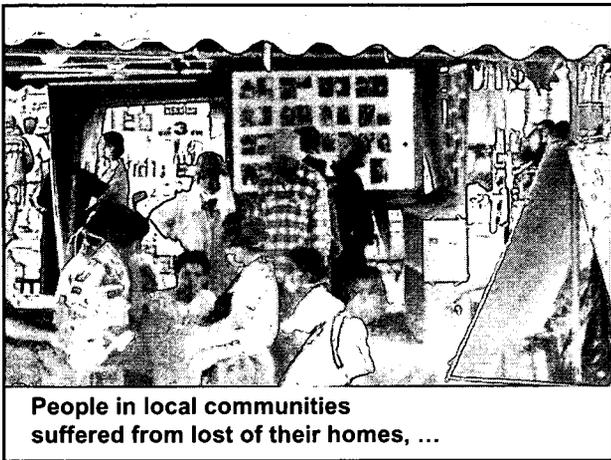
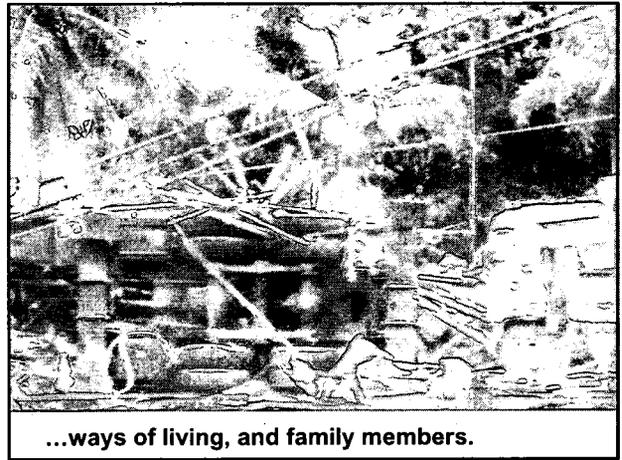


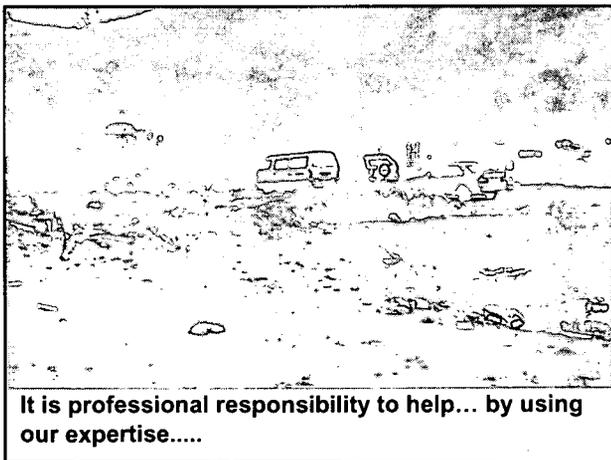
Searching for lost friends, relatives and family members.



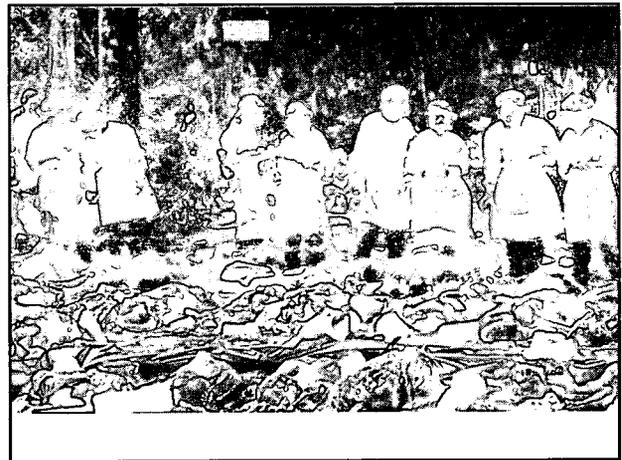
People in local communities suffered from lost of their homes, ...

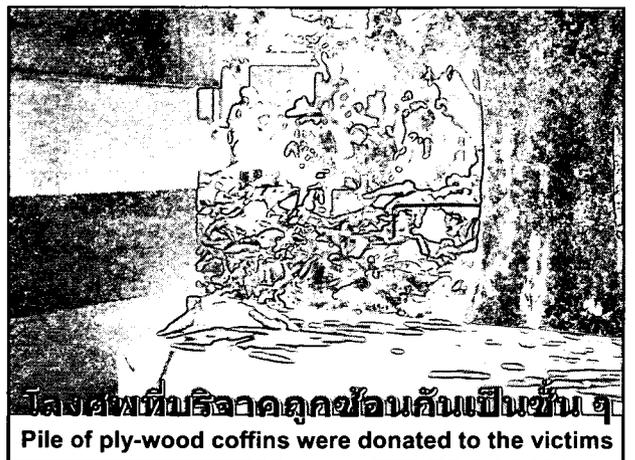
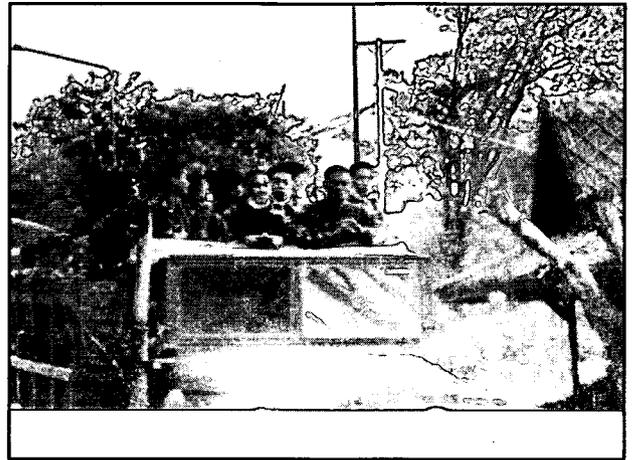
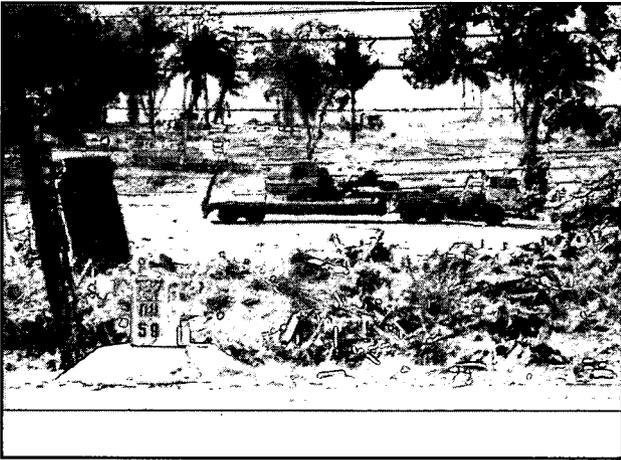
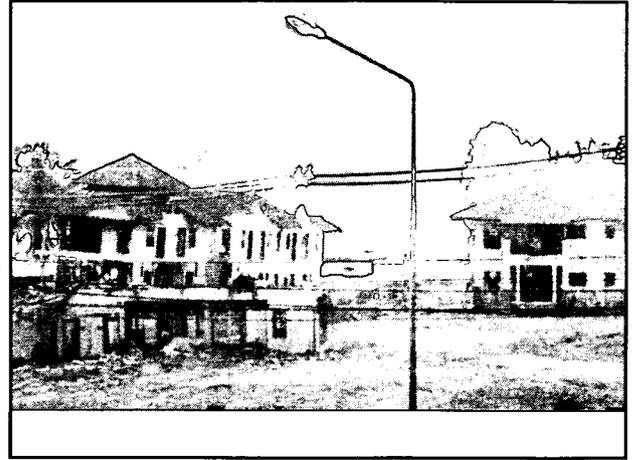


...ways of living, and family members.



It is professional responsibility to help... by using our expertise.....







Equipments and supplies were moved in.



Compiling digital data



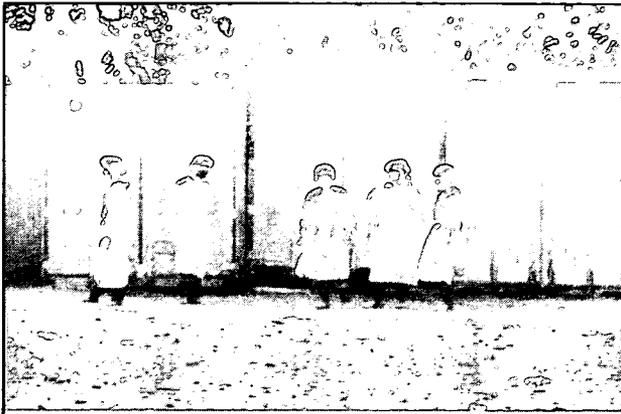
Clean up



Disinfectant spray



Disinfectant container for boots before enter the working site



Containers for victims were insufficient.



There were limited resources,...



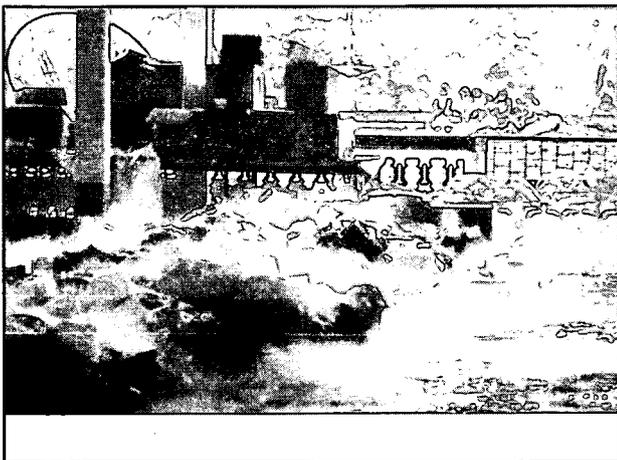
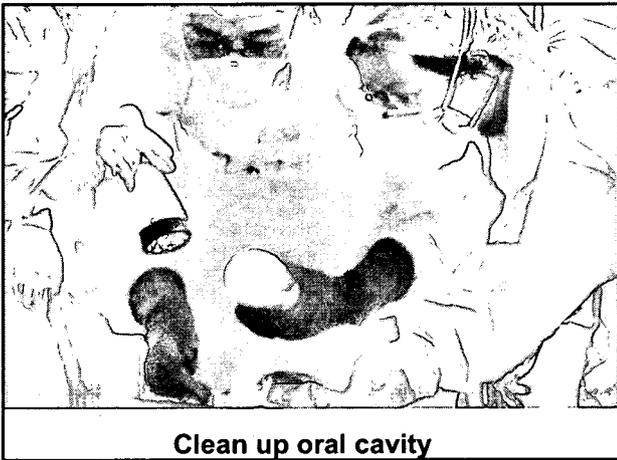
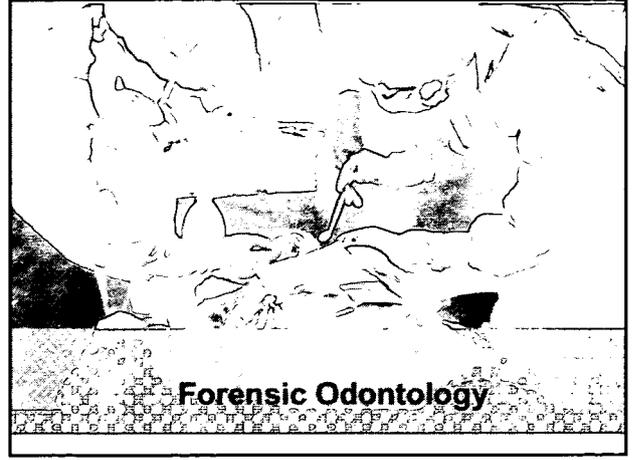
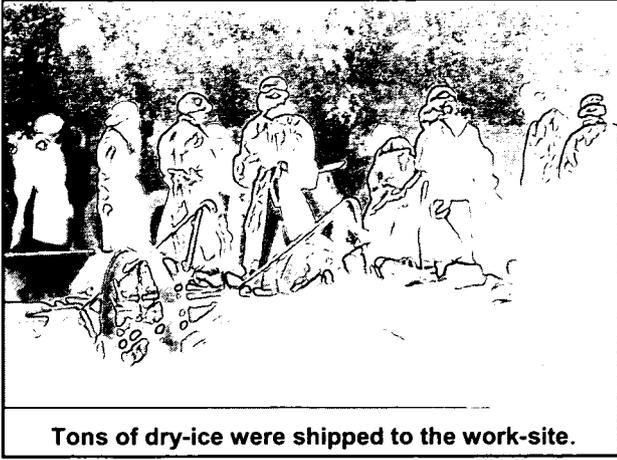
but not our will, that has never been limited.



Armed force doctors and teams were key factors for hard works.

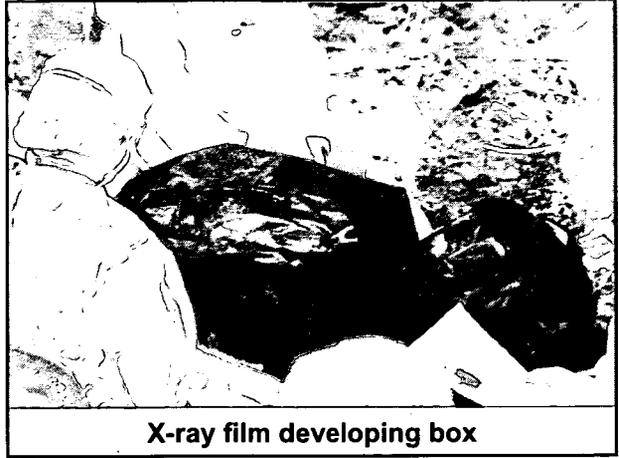


Each trip, military truck delivered 60-65 victims.

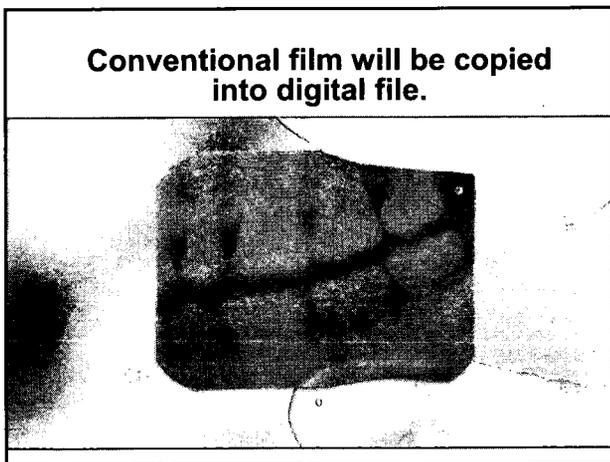
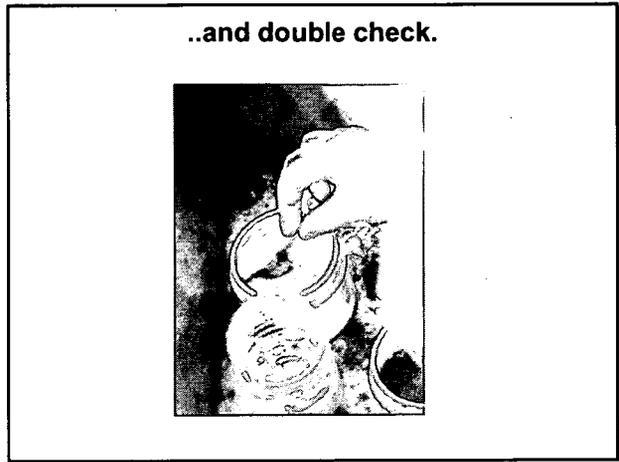
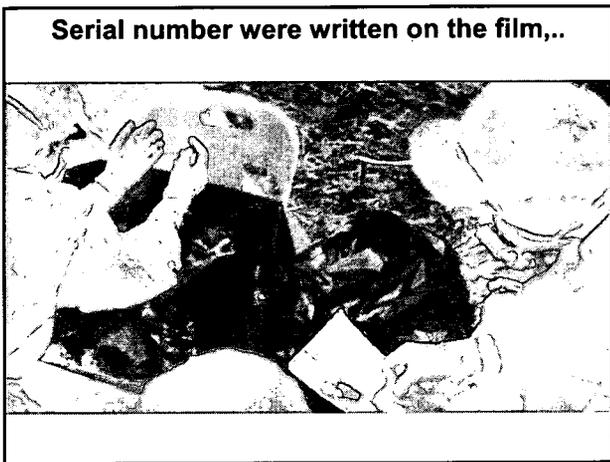




Bite wing films are prepared.



X-ray film developing box

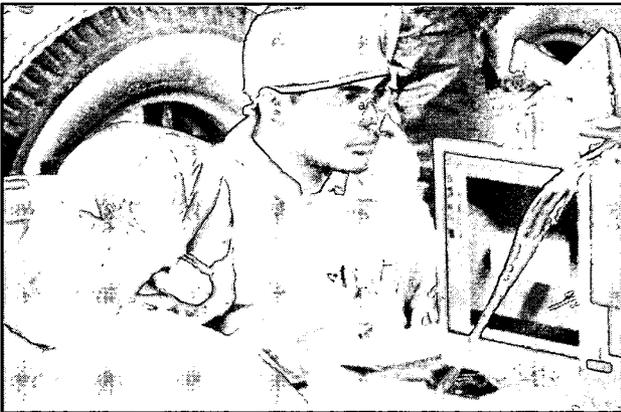




...and attached with data file.



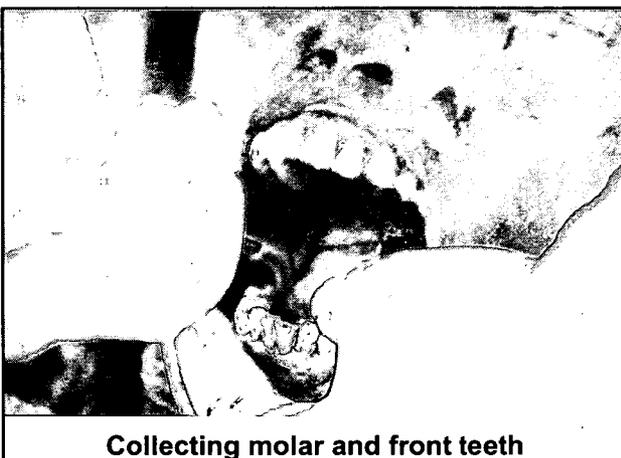
Later, with help from the U.S.A.
and Japan , Digital radiography



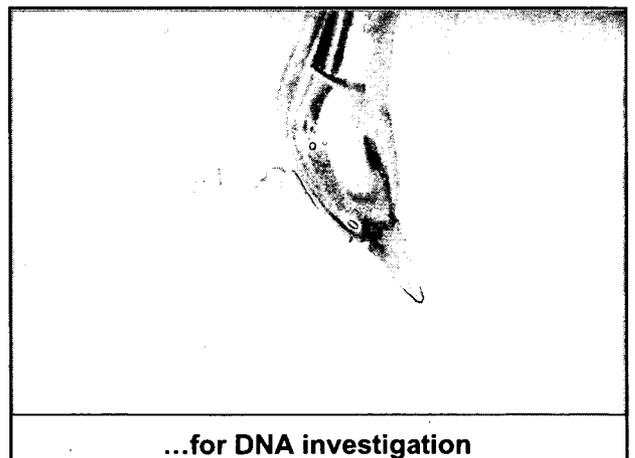
..was employed at another field site.



Materials & supply section



Collecting molar and front teeth



...for DNA investigation

Collecting red meat, buccinator muscle, for DNA analysis on the first period.



Communication & teamwork



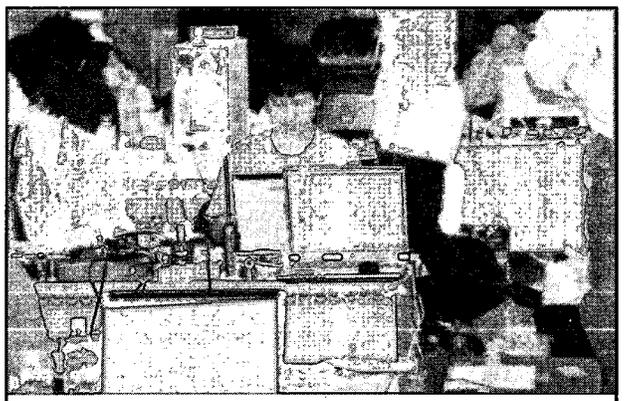
National forensic institute, National Police Beareu
Military Medical Dent.



The Dental council of Thailand, and Non-benefit foundations are main forces.



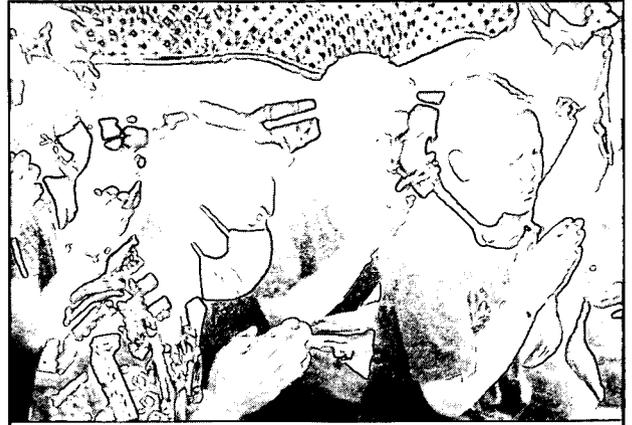
IT section Minister of Information Technology



Coffins are modified to be working desks at the temple.



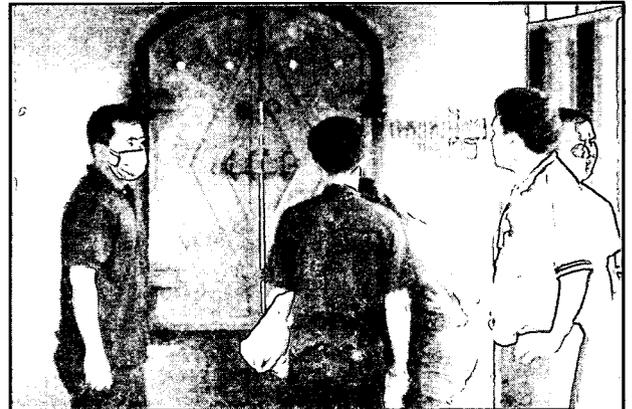
**For safety reason, one can stay in highly contagious site for 3 days.
There are the new coming volunteers.**



Bring the victim back home



Ritual service for buddhist victims is cremation with deep sorrow of their loves.



The furnace



Number of Casualties received Dental Investigation

Date of investigation	Number	Total
1-Jan-05	75	
2-Jan-05	100	175
3-Jan-05	111	286
4-Jan-05	67	353
5-Jan-05	121	474
6-Jan-05	57	531
7-Jan-05	26	557
8-Jan-05	40	597
9-Jan-05	45	642
10-Jan-05	65	707
11-Jan-05	0	707
12-Jan-05	120	827

This mission will be carried on for every victim.



International police from New Zealand and Philippine with our Dean



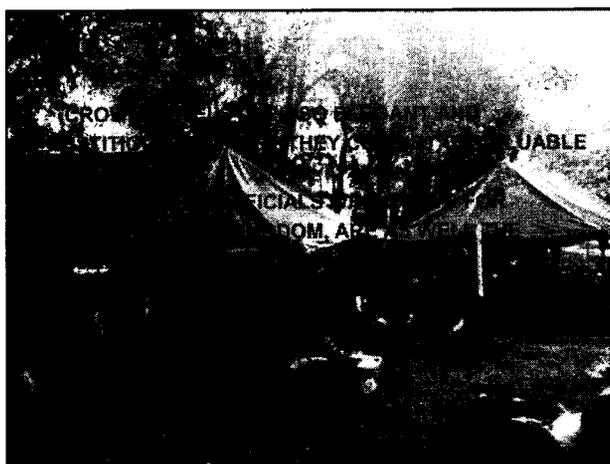
BKK : Interim communication center at dean office



Phan-nga : Temporary shelter for volunteer medical & dental forensic teams...



...was settled at Ta-kua-pa District office.



FROM : THE SPEECH OF HRH PRINCE MAHITALA DHIBESTRA ADULYADEJ VIKROM, KING BHUMIPOL'S FATHER

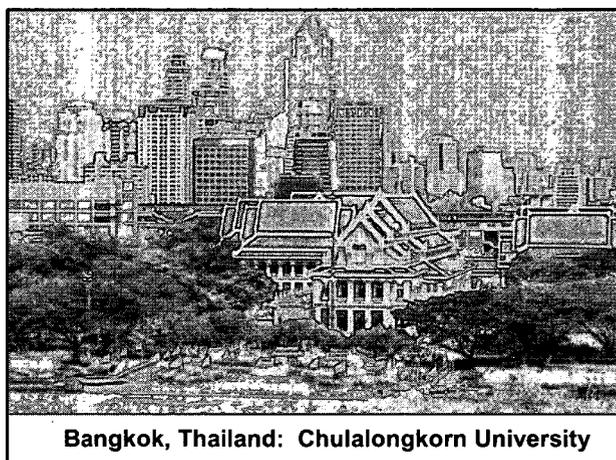
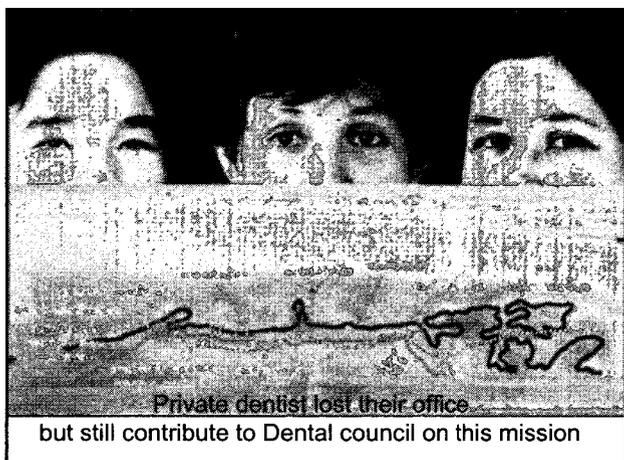
Photographed & Conducted by...
Vichet Chindavanig D.D.S., M.S.

Audiovisual section, Faculty of Dentistry,
Chulalongkorn University

For public information,
under supervision of the Dental Council of
Thailand

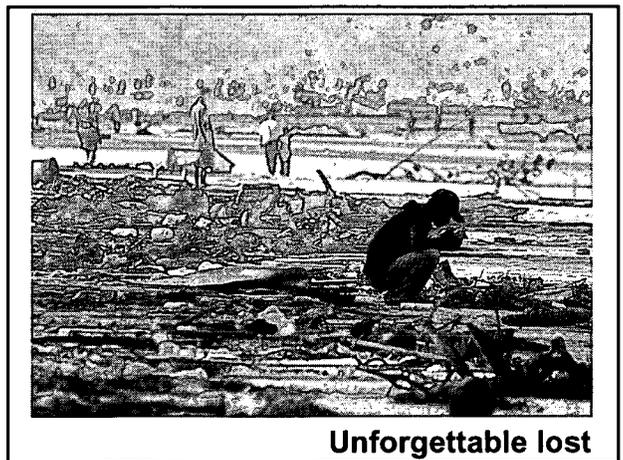
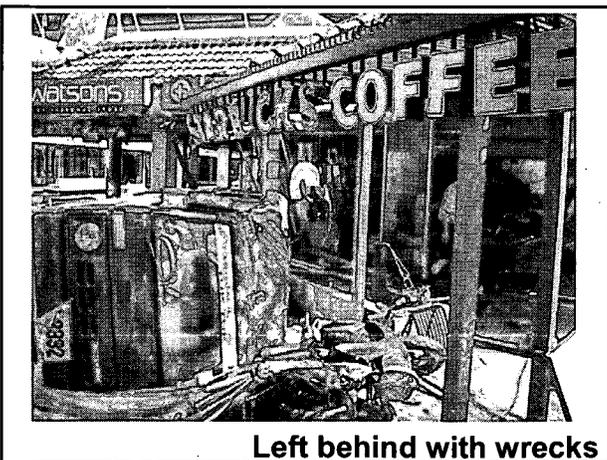
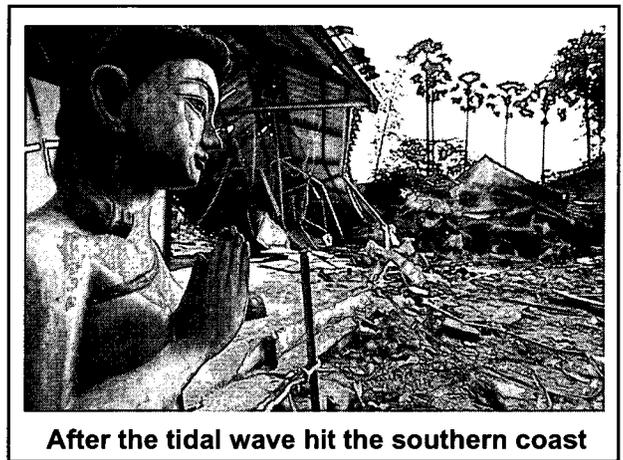
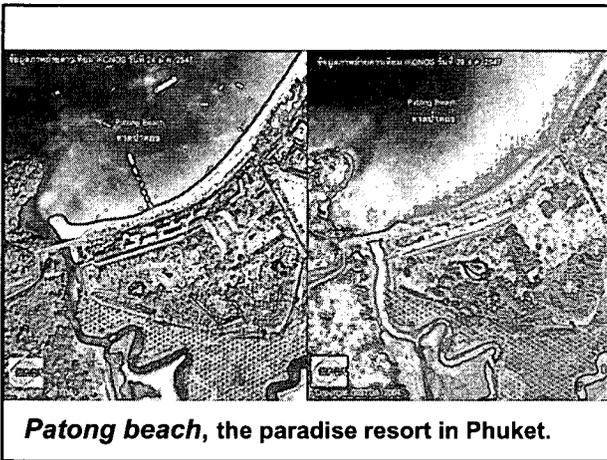
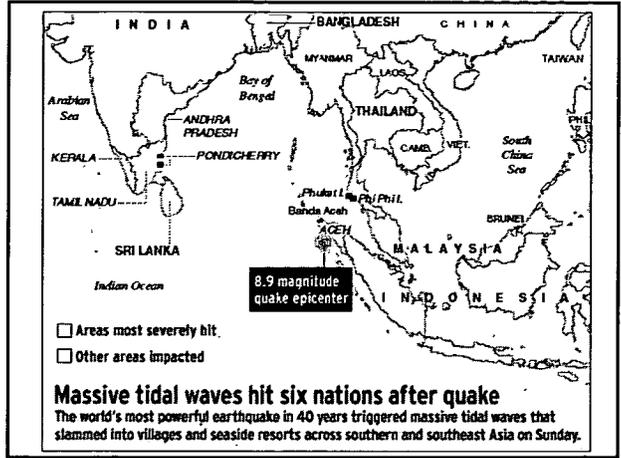
March 2005

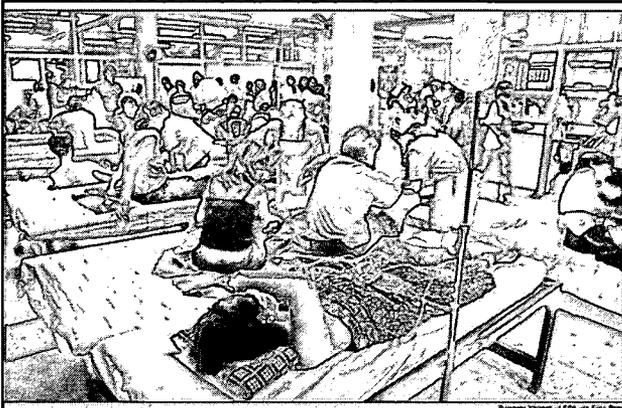
This mission has not been completed.
In this day, *Andaman Tears* still seeping.



Courtesy of Chulalornkorn University, Faculty of Dentistry

We appreciate Dr. Suchit Poolthong, Deputy Dean for Research, kindly letting us reprint his resources.





Bringing helps from all over the country



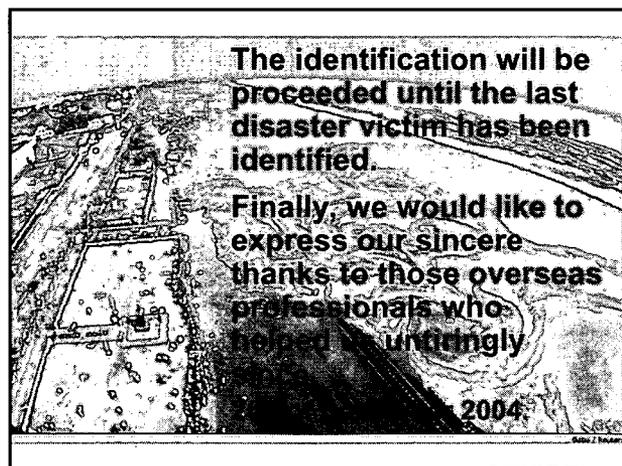
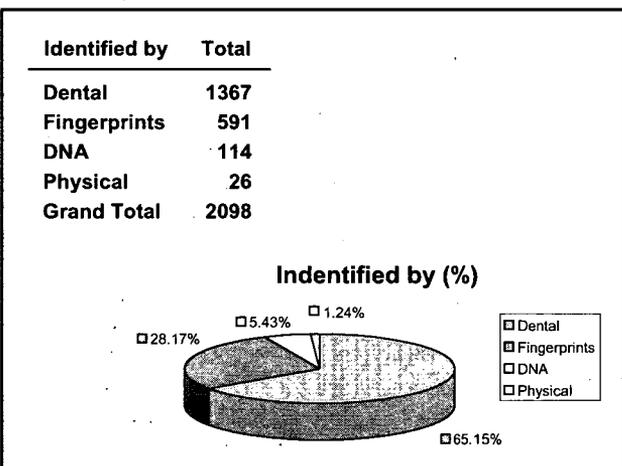
Bringing helps from all over the country



We salute them for what they have contributed.

Date	Total	Nationality	Total
July 27, 2005	16	Sweden	474
July 25, 2005	22	Germany	463
July 22, 2005	29	Thai	456
July 20, 2005	30	Finland	149
July 18, 2005	18	Switzerland	81
July 15, 2005	20	Norway	79
July 13, 2005	16	United Kingdom	76
July 11, 2005	11	Austria	66
July 8, 2005	15	France	56
July 6, 2005	14	Denmark	37
July 4, 2005	9	Netherlands	26
July 1, 2005	16	Canada	15
June	195	USA	15
May	214	Italy	14
April	281	Australia	11
March	576	Japan	11
February	559	Singapore	10
January	57	China	9
		South Korea	6
		Poland	5
Grand Total	2098		

Updated until 27/7/05	
Identified	2098
Unidentified	1763
Total	3861



Courtesy of Mahidol University,
Faculty of Dentistry

We appreciate Dr. Siribang-On Khovidhunkit,
Department of Hospital Dentistry,
kindly letting us reprint her resources.

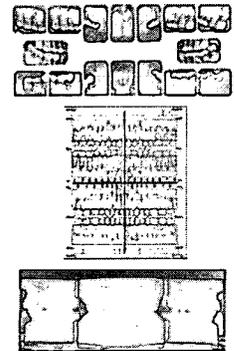
Tsunami: identifying a person from DNA

Topics

- Background of identification of an individual using DNA
- DNA results from Siriraj Hospital
- Beijing Genomics Institute

Identifying a person using dental data

- Post-mortem data
 - Photographs
 - X-ray
 - Dental chart
- Ante-mortem data
 - Photographs
 - X-ray
 - Models
 - Dental chart



Identifying a person using dental data

Problem: no ante-mortem data



The body cannot be identified



DNA analysis for identification

Identifying a person using DNA

- Background
 - What is DNA?
 - Why DNA?
 - How can we use DNA for identification?
 - Methods used
 - Example

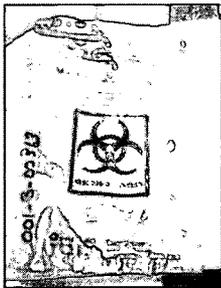
Oral sources of DNA

- Pulpal tissues (tooth)
- Periodontium (tooth)
- Buccal swab
- Others

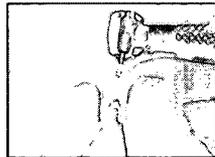
DNA results from Siriraj Hospital

- 245 tooth samples from Wat Bang-muang
- 30 samples were successfully analysed
- Methods:
 - Tooth preparation
 - DNA extraction
 - DNA analysis.

Tooth preparation



Tooth sample



Making grooves



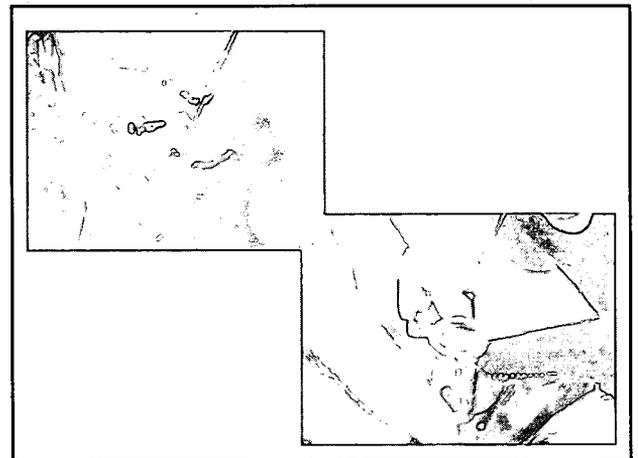
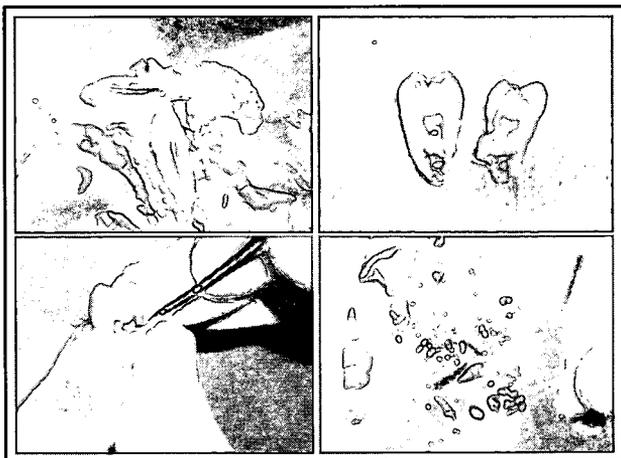
Tooth preparation



Cracking



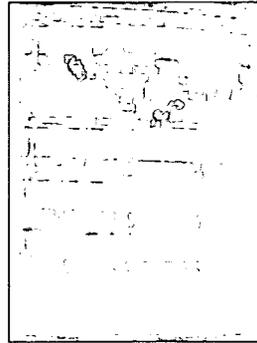
Pulp removal



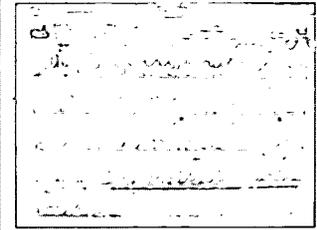
DNA extraction and analysis



DNA analysis



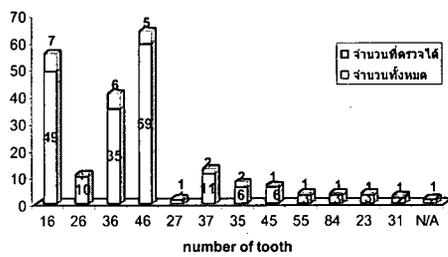
STR analysis



Mitochondria sequencing

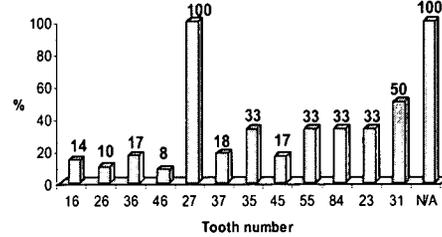
DNA results from Siriraj Hospital

DNA identification result



DNA results from Siriraj Hospital

ร้อยละฟันที่ตรวจได้



Beijing Genomics Institute



Projects

- Human Genome Project
- Rice Genome Project
- HapMap (Haplotype Mapping)
- Silkworm

Forensic Works

Paternity test (80%)

Others: identification, crime

Tsunami cases: Tooth and bone samples for DNA

Sample preparation



DNA extraction



Identification: STR, mitochondria Genotyping

Result

- Only one sample from 84 tooth samples was successfully analysed

- Possible problems

- DNA degradation
- DNA contamination

Discussion

Unaccomplished analysis

DNA degradation

DNA extraction

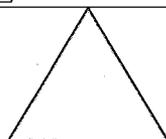
DNA contamination

Complication of STR analysis

Consideration

Extraction for DNA

Keep tooth as post mortem data



参考資料 3

タイ・プーケット視察時写真